

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
21 July 2005 (21.07.2005)

PCT

(10) International Publication Number  
**WO 2005/065923 A1**

(51) International Patent Classification<sup>7</sup>: **B29D 30/06**,  
30/10 // G06F 17/00

(21) International Application Number:  
PCT/IB2003/006221

(22) International Filing Date:  
29 December 2003 (29.12.2003)

(25) Filing Language: English

(26) Publication Language: English

(71) Applicant (*for all designated States except US*): **PIRELLI PNEUMATICI S.p.A.** [IT/IT]; Viale Sarca, 222, I-20126 Milan (IT).

(72) Inventor; and

(75) Inventor/Applicant (*for US only*): **BRUSCHELLI, Lu-**  
**cas** [IT/IT]; PIRELLI PNEUMATICI S.p.A., Viale Sarca,  
222, I-20126 Milan (IT).

(74) Common Representative: **PIRELLI PNEUMATICI**  
S.p.A.; c/o POSTIGLIONE, Ferruccio, Jacobacci &  
Partners S.p.a., Via Senato, 8, I-20121 Milan (IT).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AT  
(utility model), AU, AZ, BA, BB, BG, BR, BW, BY, BZ,  
CA, CH, CN, CO, CR, CU, CZ, DE, DE (utility model),  
DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM,  
HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK,  
LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX,  
MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD,  
SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG,  
US, UZ, VC, VN, YU, ZA, ZM, ZW.

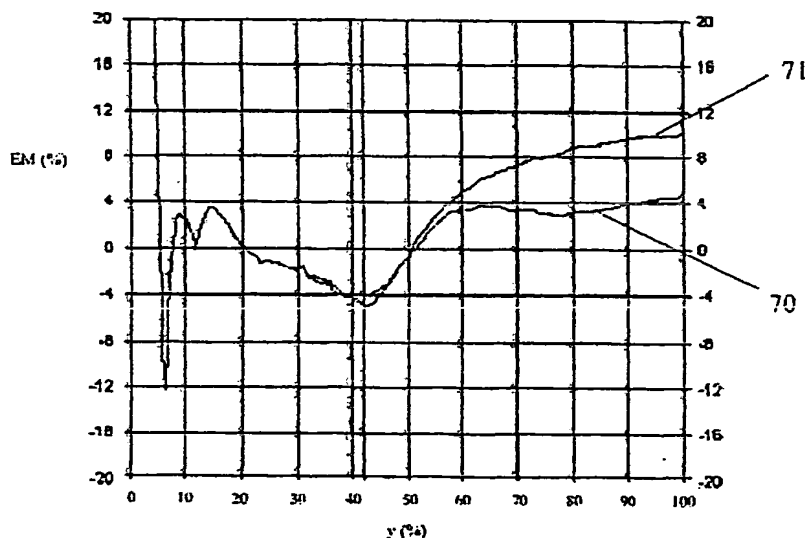
(84) Designated States (*regional*): ARIPO patent (BW, GH,  
GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),  
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,  
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE,  
SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA,  
GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: METHOD FOR MANUFACTURING A TYRE



(57) Abstract: A method of manufacturing tyres comprises disposing an uncured elastomeric material on a substantially rigid toroidal support, so as to form a green tyre. The green tyre and the toroidal support are then disposed within a vulcanization mold in which a molding cavity is defined, so as to mold and cure the green tyre. The molding cavity includes at least a portion in which molding and curing are carried molding out at a constant volume. The deposition of the elastomeric material onto the rigid toroidal support is carried out by controlling the volume distribution of the elastomeric material onto the toroidal support, so as to fit a predetermined curve of excess material volume, i.e., a curve showing a difference between the volume distribution of the material forming the green tyre and the available volume in the portion of the molding cavity adapted for molding and curing the green tyre at constant volume, versus a predetermined, e.g. radial, direction.

WO 2005/065923 A1